

REMARKS

Reconsideration of the above-identified application in view of the following remarks is respectfully requested.

Claim Status

Claims 1, 5, 7-36, 42-71, 75, and 77-106 are pending in this application. Claims 1, 5, 10-21, 26-31, 33-36, 40, 45, 46, 61-66, 68-71, 75, 80-91, 96-101 and 103-105 are withdrawn from consideration as a result of a previous Restriction Requirement and subsequent election by Applicants. Claims 7-9, 22-25, 32, 42-44, 57-60, 67, 77-79, 92-95, 102 and 106 are currently being considered and are rejected. Of the claims under consideration, claims 32, 67, 102 and 106 are independent in form.

Claim Rejections – 35 U.S.C. § 103

The rejection of claims 7, 32, 42, 57, 67, 77, 102 and 106 under 35 U.S.C. § 103(a) allegedly as being unpatentable over the combination of Edgar, U.S. Patent No. 5,266,805 (“Edgar”), Florent, U.S. Patent No. 5,832,111 (“Florent”), and Maeda et al., U.S. Publication No. 20030128889 (“Maeda”), and of claims 8-9, 22-25, 43-44, 57-60, 78-79 and 92-95 under 35 U.S.C. § 103(a) allegedly as being unpatentable over the combination of Edgar and Florent as applied to claims 7, 42 and 77, and further in view of Nichani et al., U.S. Patent No. 5,949,905 (“Nichani”) have been maintained. Applicants respectfully disagree with the characterization of the claims and prior art in the stated rejection and respectfully traverse this rejection.

Examiner's Response to Previous Arguments

The Examiner responded to Applicants' arguments presented in their October 17, 2005 Submission Under 37 CFR 1.114, as follows:

1. Applicant is respectfully reminded that the independent claims were not rejected as being anticipated by Edgar, but rather were rejected over the combinaton [sic] of Edgar, Florent, and Maeda. As applied to the 103 rejection, most of the applicant's arguments are moot in that Edgar was never applied to the limitations in question.
2. Again, applicant is respectfully reminded that three references were used in the rejection, and that the segmentation limitation was met by the Maeda reference.
3. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.

(January 12, 2006 Office Action at 2-3)

Applicants respectfully submit that, in their October 17, 2005 Paper, Applicants pointed out deficiencies in the teachings of the individual references cited by the Examiner that in combination, allegedly disclosed the claimed invention. Further, Applicants did not agree with the teachings attributed to the references, for example, Edgar and Florent as discussed in detail on pages 3-5 of the October 17 Paper. These enumerated deficiencies in the cited references, in Applicants' opinion, preclude arriving at the claimed invention, even if the combination of these references were motivated and proper, which Applicants respectfully submit, is not.

Many inventions are combinations of known elements, where it is the combination of such prior art that is the invention. Even in such cases, while the identification of those known elements may be taken from the claims under examination, the motivation for their

combination cannot be and must be already in the prior art. As the Examiner is well aware, the motivation to combine cannot be based on hindsight.

Applicants reaffirm their previously stated positions rebutting the rejections under §103 stated in the June 17, 2005 Office Action and maintained in the January 12, 2006 Office Action, and respectfully submit that the present invention as recited in the pending claims is patentably distinct over the art of record. Applicants offer the following additional clarifying remarks.

Regarding independent claim 102, which the Examiner characterizes as representative of independent claims 32 and 67, the Examiner contends that Edgar discloses: a visible light source, an infrared light source, and a photoelectric converter; a means for comparing a threshold value with infrared image signal components and extracting infrared image signal components not more than the threshold value; and a means for comparing a threshold value with infrared image signal components and extracting infrared image signal components not more than the threshold value, at col. 7, lines 10-28 and col. 12, lines 26-30 (January 12, 2006 Office Action at 3). The Examiner further contends that Edgar, at col. 12, lines 30-35, discloses a means for executing an interpolation process of a visible light image signal on the basis of the infrared image signal components not more than the threshold value (January 12, 2006 Office Action at 3).

The Examiner asserts that it would have been obvious to one reasonably skilled in the art at the time of the invention to modify Edgar's image reading apparatus by calculating a threshold value on the basis of a generated histogram as taught by Florent (January 12, 2006 Office Action at 4). The Examiner further asserts that it would have been obvious to one reasonably skilled in the art at the time of the invention to modify Edgar and Florent's image

reading apparatus by segmenting the infrared image into a plurality of blocks as taught by Maeda (January 12, 2006 Office Action at 4). The Examiner alleges that paragraph 119 of Maeda provides motivation for the proposed combination by teaching that the modification would have allowed for the accurate detection of image defects (January 12, 2006 Office Action at 4).

The cited paragraph of Maeda that purportedly justifies the combination of Maeda with Edgar and Florent discloses:

Upon completion of reception of the main-scan image data from the scanner 2, the host computer 1 makes an affirmative decision (YES) in step S17, and selects one pixel block (m-th block) from a plurality of blocks each comprising a predetermined number of pixels, and obtained by breaking up all the pixels of the IR data in step S18. The host computer 1 checks in step S19 if the selected m-th block in the IR data includes a pixel with luminance lower than a first IR luminance level. That is, the host computer 1 checks in step S19 whether or not the selected m-th block includes a defect. The first IR luminance level corresponds to a transmission level obtained when the film original 26 is free from any defects. In case of a positive film, the first IR luminance level is obtained by multiplying IRmax detected in step S7 by the magnification factor for IR obtained in step S8. On the other hand, in case of a negative film, the first IR luminance level is obtained by multiplying IRmax detected in step S13 by the magnification factor for IR calculated in step S14.

Maeda at paragraph 119.

In the cited section, Maeda merely discloses an algorithm in which a plurality of pixels, which comprise a pixel block of an infrared image signal, are processed by a computer to determine if each pixel block has one or more pixel values that are lower than a single threshold value, which is referred to as a first IR luminance level. However, Maeda fails to disclose or suggest any motivation for segmenting the infrared image signal into a plurality of blocks for more accurate detection of image defects.

Section 2142 of the Manual of Patent Examining Procedure provides, *inter alia*:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure.

In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

However, Applicants respectfully submit that the Examiner has failed to carry the required burden of identifying “some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.” More particularly, the Examiner has failed to provide “some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art” for providing “a segmentation unit adapted to segment an infrared image signal obtained via said photoelectric converter by illuminating a transparent document with light emitted by said infrared light source into a plurality of blocks” in Edgar and Florent’s image reading apparatus. Moreover, neither Florent nor Maeda disclose or suggest calculating a different threshold value for each block.

Accordingly, independent claim 102 is believed to define patentable subject matter for at least the foregoing reasons. Independent claims 32 and 67 are believed to define patentable subject matter for at least similar reasons.

Regarding independent claim 106, the Examiner states that Edgar discloses a computer program product comprising a computer usable medium having computer readable

code. However, based on arguments similar to those presented above regarding claim 102, Edgar, alone or in combination with Florent or Maeda, fails to disclose the computer program product recited in claim 106. In addition, Nichani would also fail to cure the deficiencies of Maeda, thus independent claim 106 is also believed to define patentable subject matter.

Applicants respectfully submit that the present invention as claimed is neither taught nor suggested by, and therefore neither anticipated by nor rendered obvious in view of, Edgar, Florent, Maeda, Nichani, or other prior art of record, taken individually or in combination. Accordingly, Applicants respectfully request withdrawal of the rejection applied to claims 1, 5, 7-36, 42-71, 75, and 77-106 under 35 U.S.C. § 103(a).

Dependent Claims

Applicants have not independently addressed the rejections of the dependent claims. Applicants submit that, in view of the amendments to the claims presented herein and, for at least similar reasons as to why the independent claims from which the dependent claims depend are believed allowable as discussed supra, the dependent claims are also allowable. Applicants however, reserve the right to address any individual rejections of the dependent claims should such be necessary or appropriate.

CONCLUSION

For the above-stated reasons, this application is respectfully asserted to be in condition for allowance. An early and favorable examination on the merits is requested. In the event that a telephone conference would facilitate the examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Request to Deposit Account No. 13-4500, Order No. 1232-4724.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4500, Order No. 1232-4724.

Respectfully submitted,
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